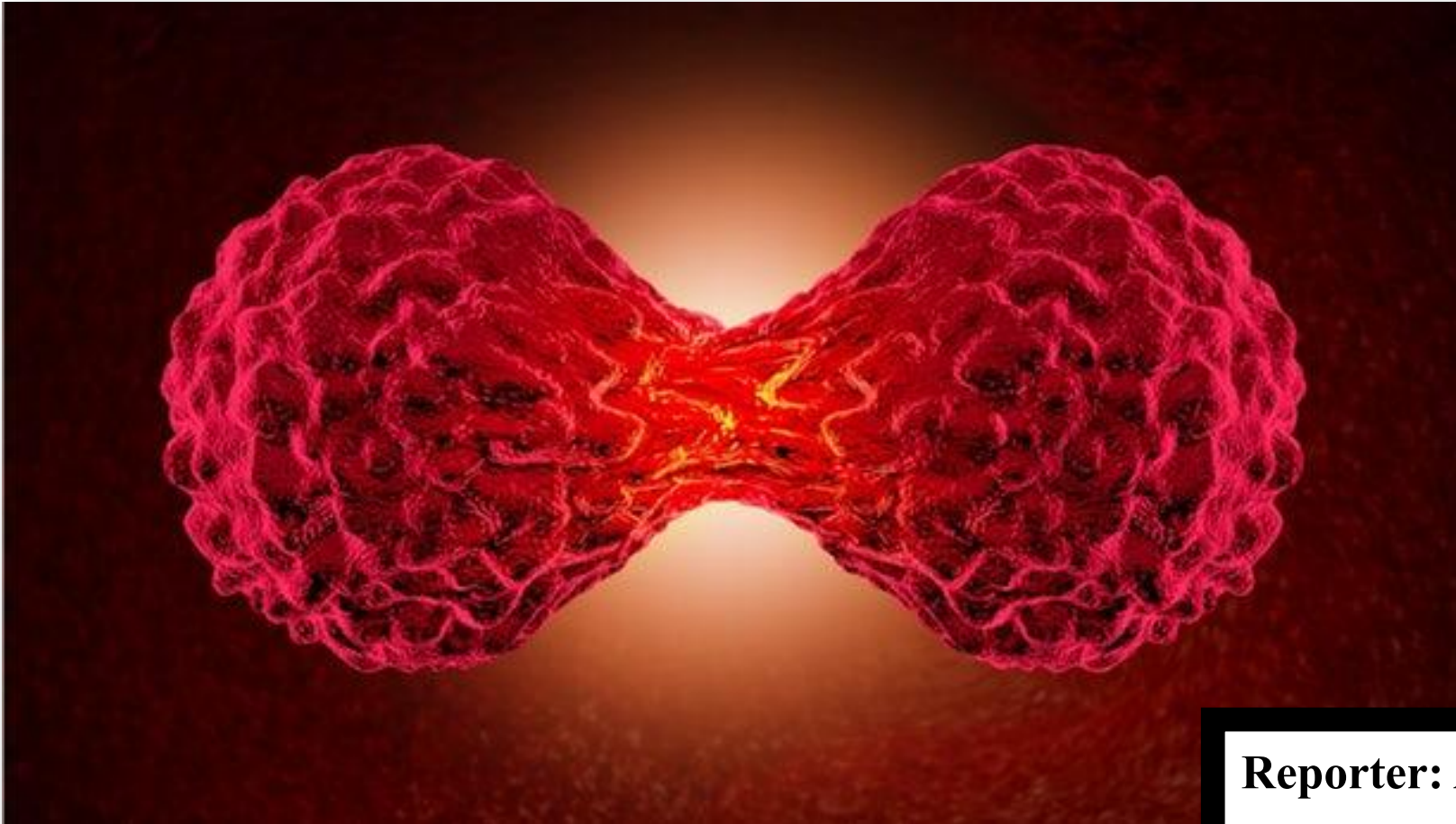
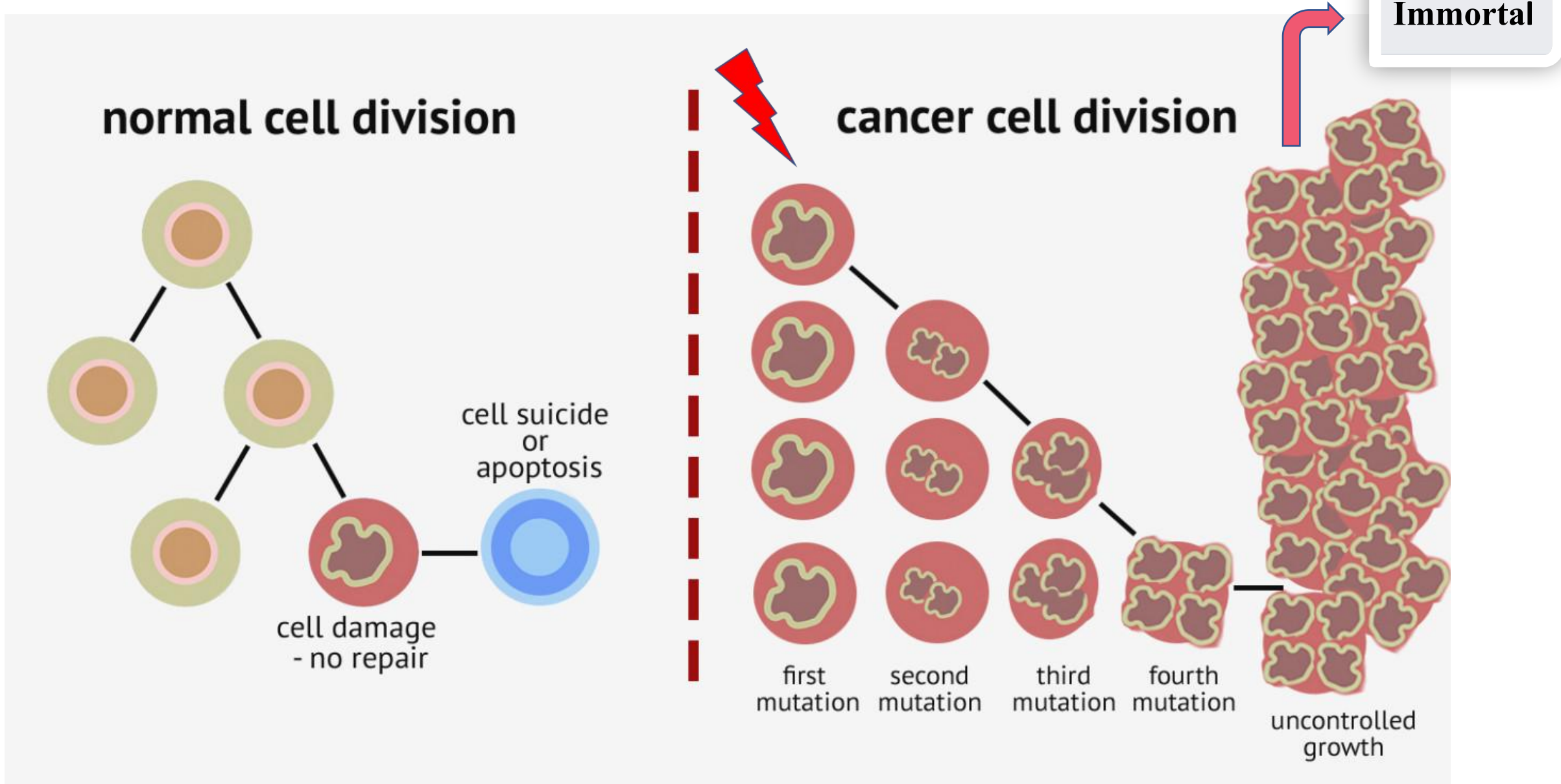


# Unlocking The Mysteries of Cancer



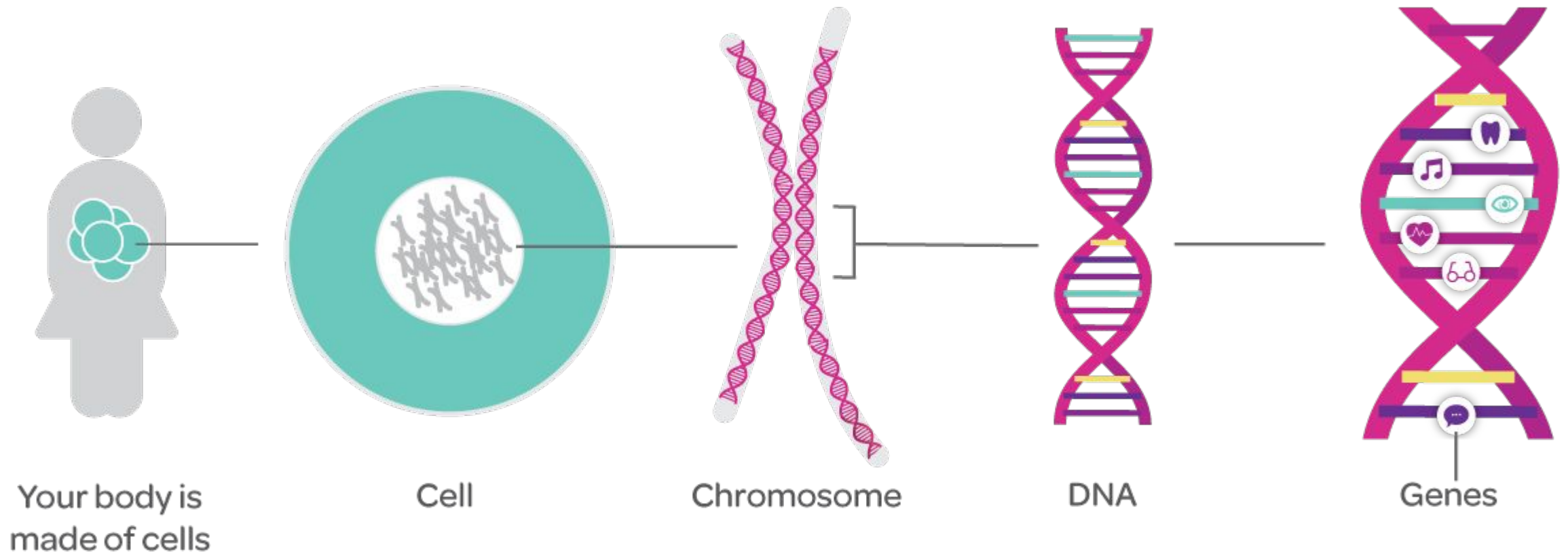
**Reporter: Anna Steepochkina**

# What is cancer?

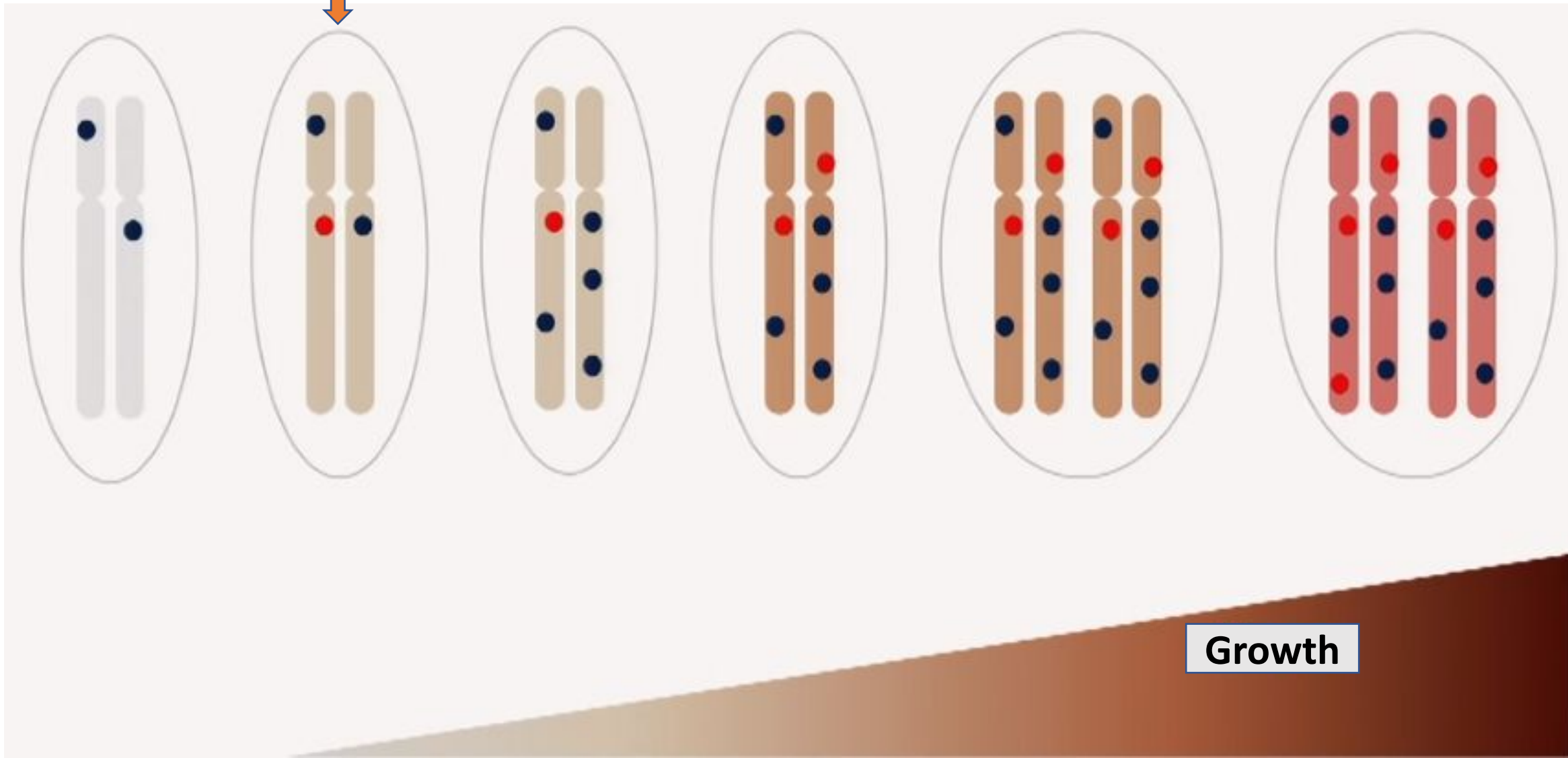


# How does cancer start?

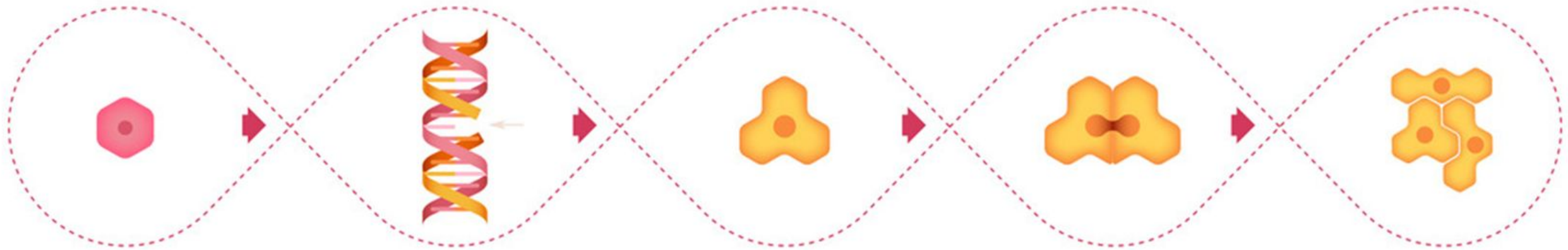
Carcinogenesis is a **multi-stage** process and begins with a *genetic defect*.



**Driver mutation**







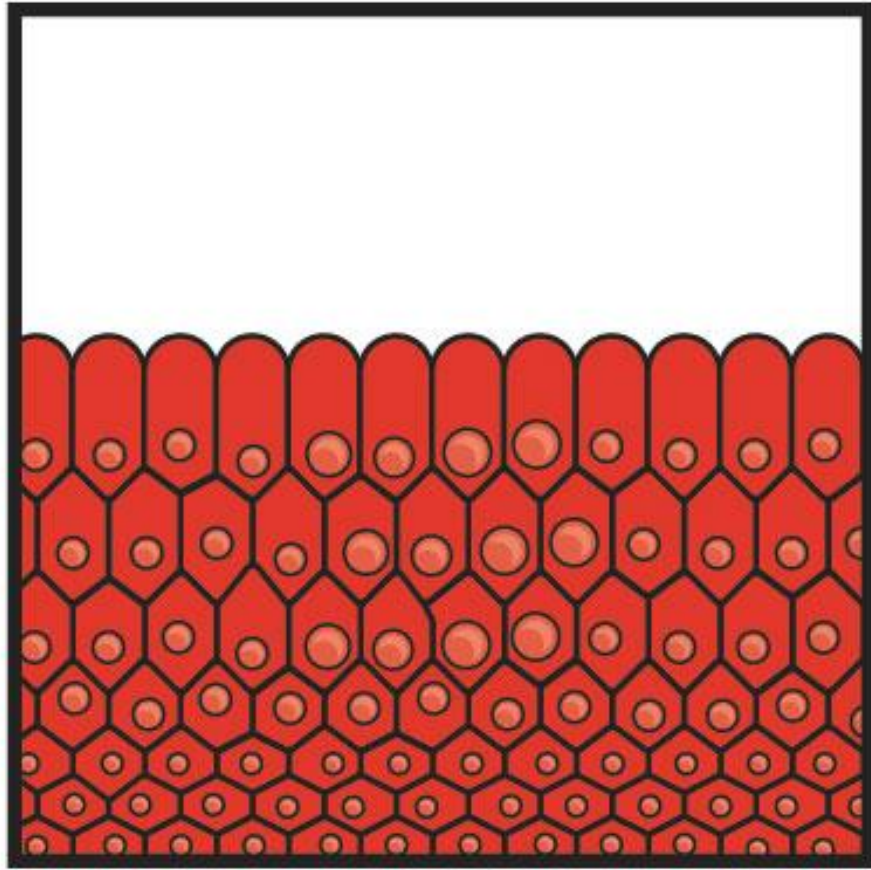
*Step. 1*  
HEALTHY  
CELL

*Step. 2*  
DAMAGED DNA  
IN CELL

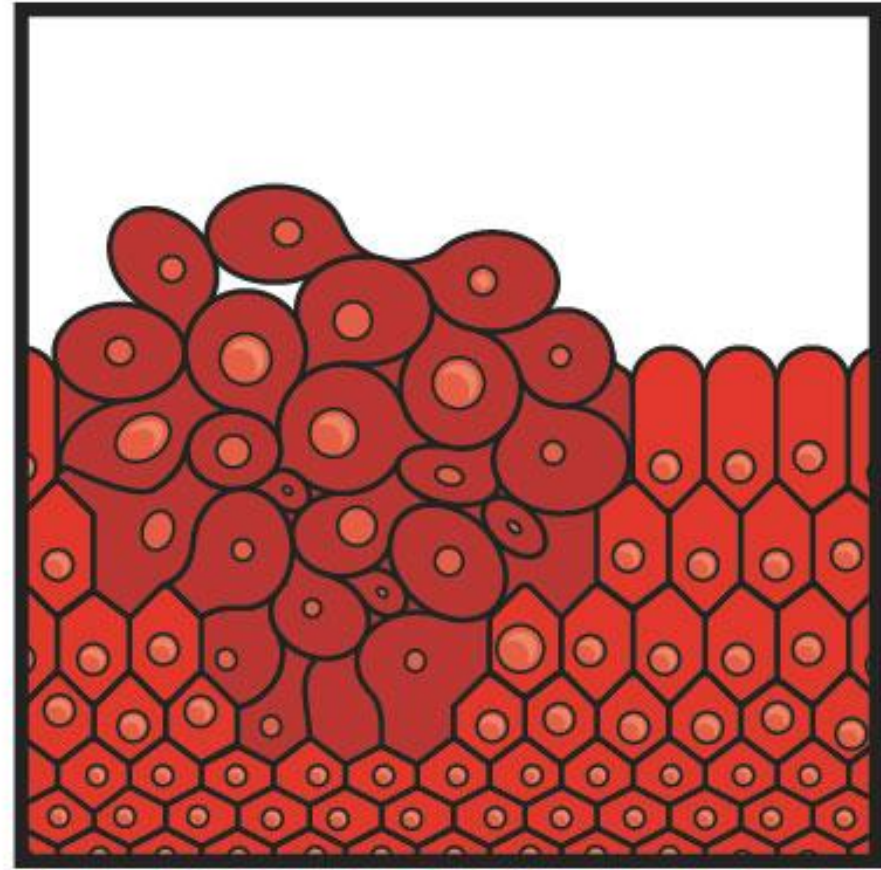
*Step. 3*  
CELL BECOMES  
MUTATED

*Step. 4*  
MUTATED CELL  
BEGINS UNCHECKED  
REPRODUCTION

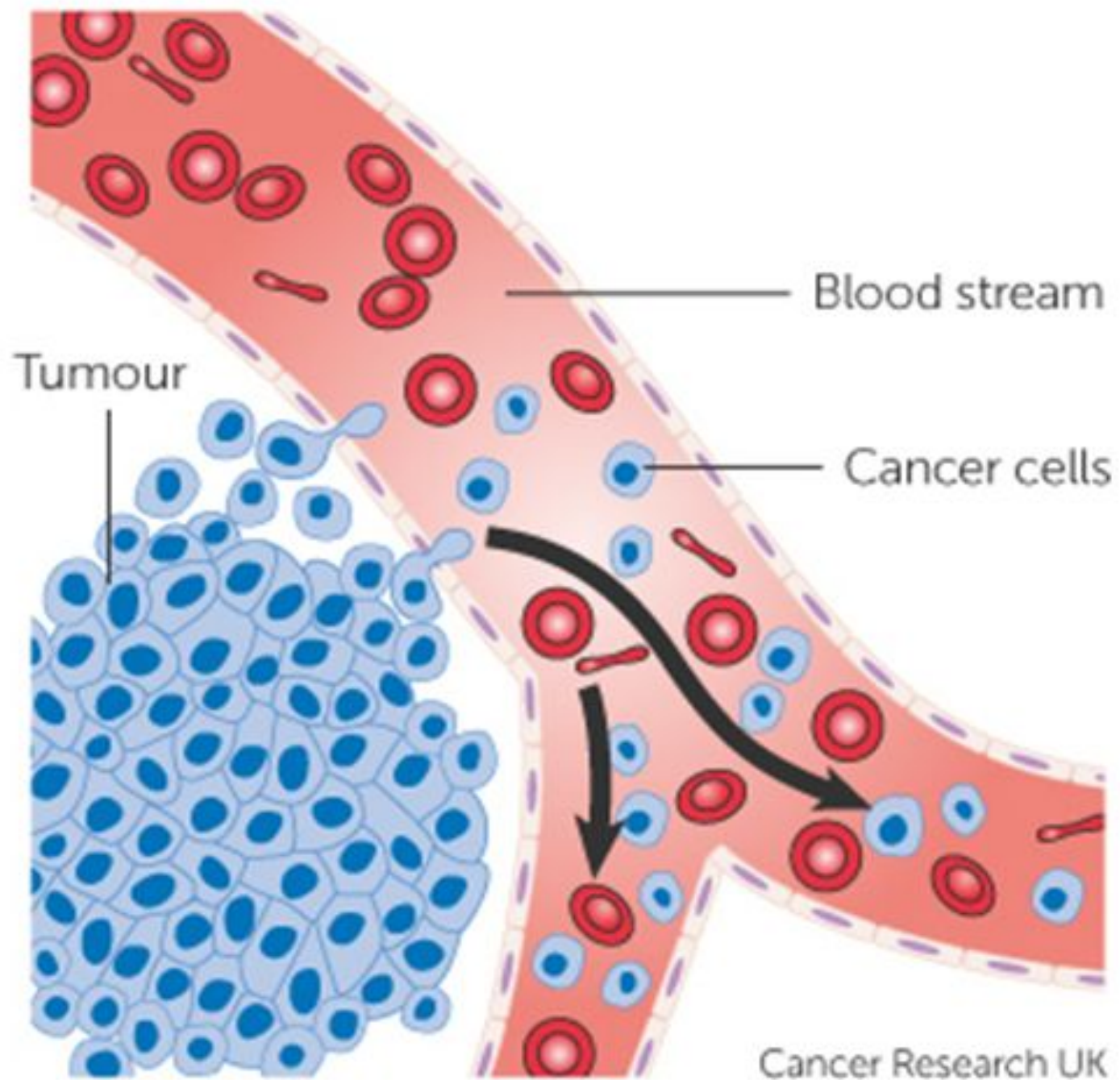
*Step. 5*  
MUTATED CELLS  
GROWN IN NUMBER



Normal cells



Cells forming a tumour

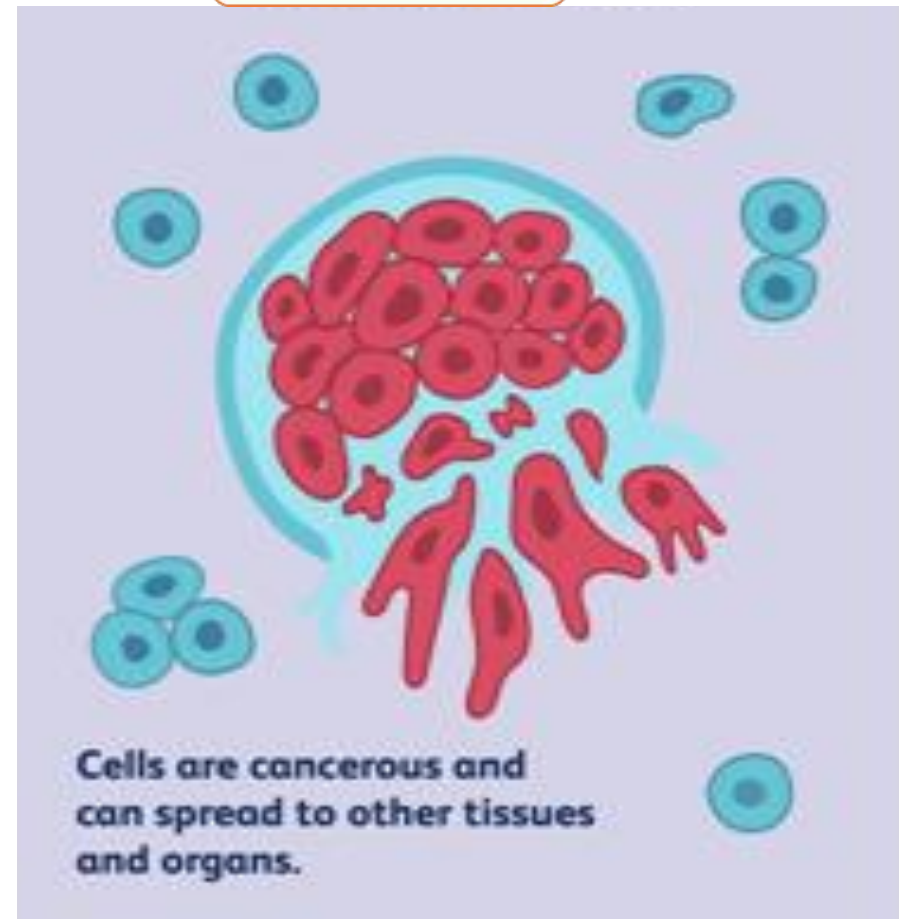
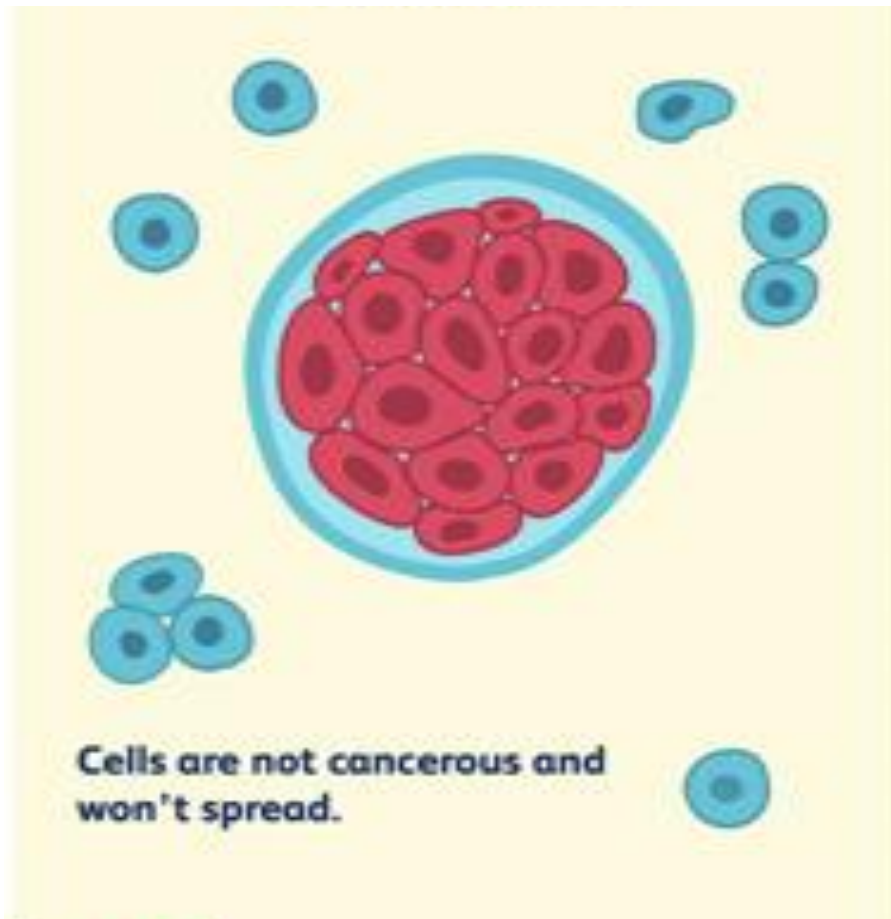




# Tumors

Benign

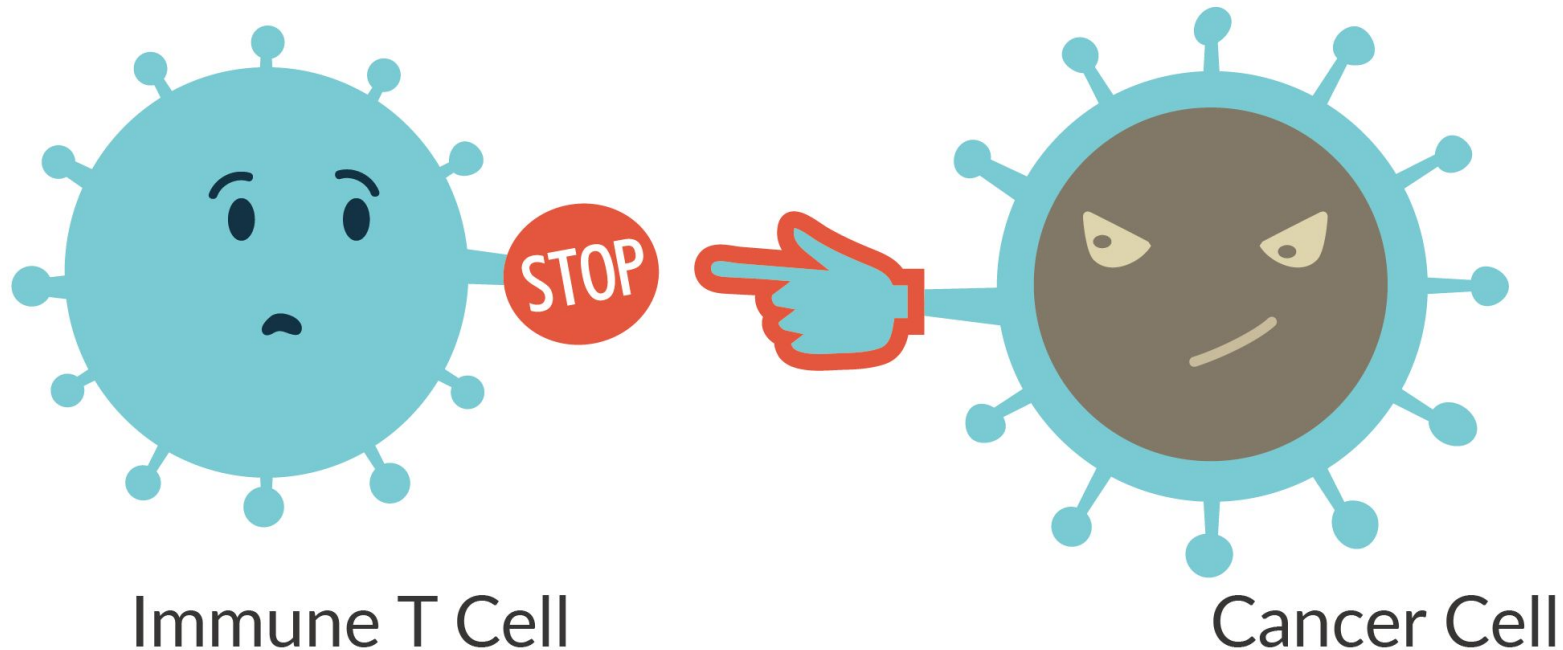
Malignant





# How Cancer Fools the Immune System?!

Cancer cell presses the STOP button of the immune T cell to stop the attack.



Checkpoint inhibitor blocks the STOP button, “taking the brakes off immune.”



Immune T cell is re-activated and can start attacking cancer cells.



# 4 IN 10 CANCERS CAN BE PREVENTED

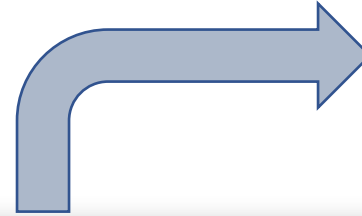




# 1. Tobacco



**1 in 8** cancer cases are caused by smoking




**50** are known to cause cancer



**6,000+** chemicals are in cigarette smoke

**Smoking can cause 16 types of cancer**



# Tobacco use\* causes cancer throughout the body.

**Mouth and throat**  
*(oral cavity and pharynx)*

**Voice box**  
*(larynx)*

**Acute myeloid leukemia**

**Kidney and renal pelvis**

**Uterine cervix**

**Urinary bladder**

**Esophagus**

**Lung, bronchus, and trachea**

**Liver**

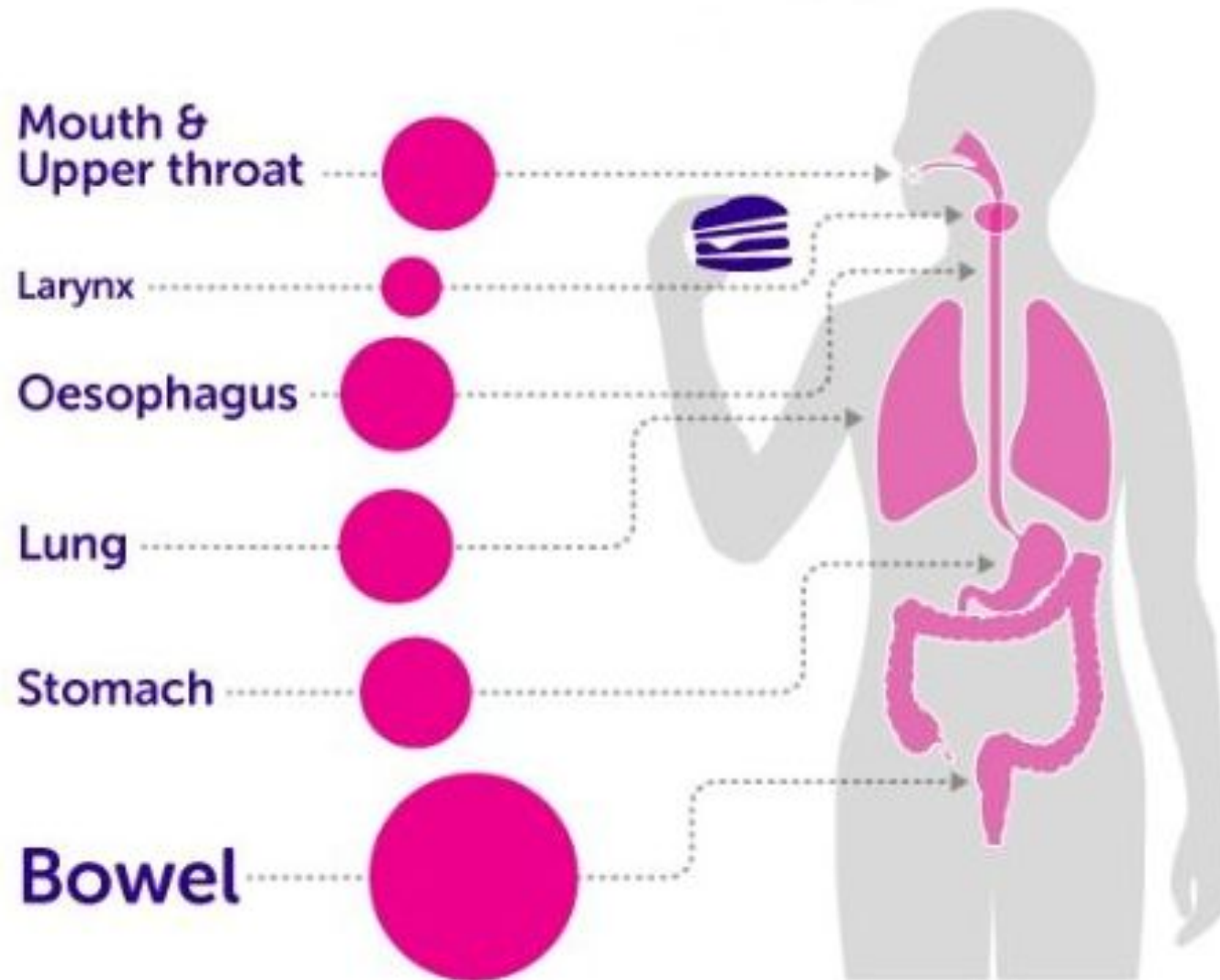
**Stomach**

**Pancreas**

**Colon and rectum**



## 2. Physical inactivity, obesity



# Weight Management Tips



Just **1 or 2 sessions per week** of moderate-intensity physical activity was sufficient to reduce cancer mortality risks.



Eat more fruits and vegetables, lean protein and whole grains.



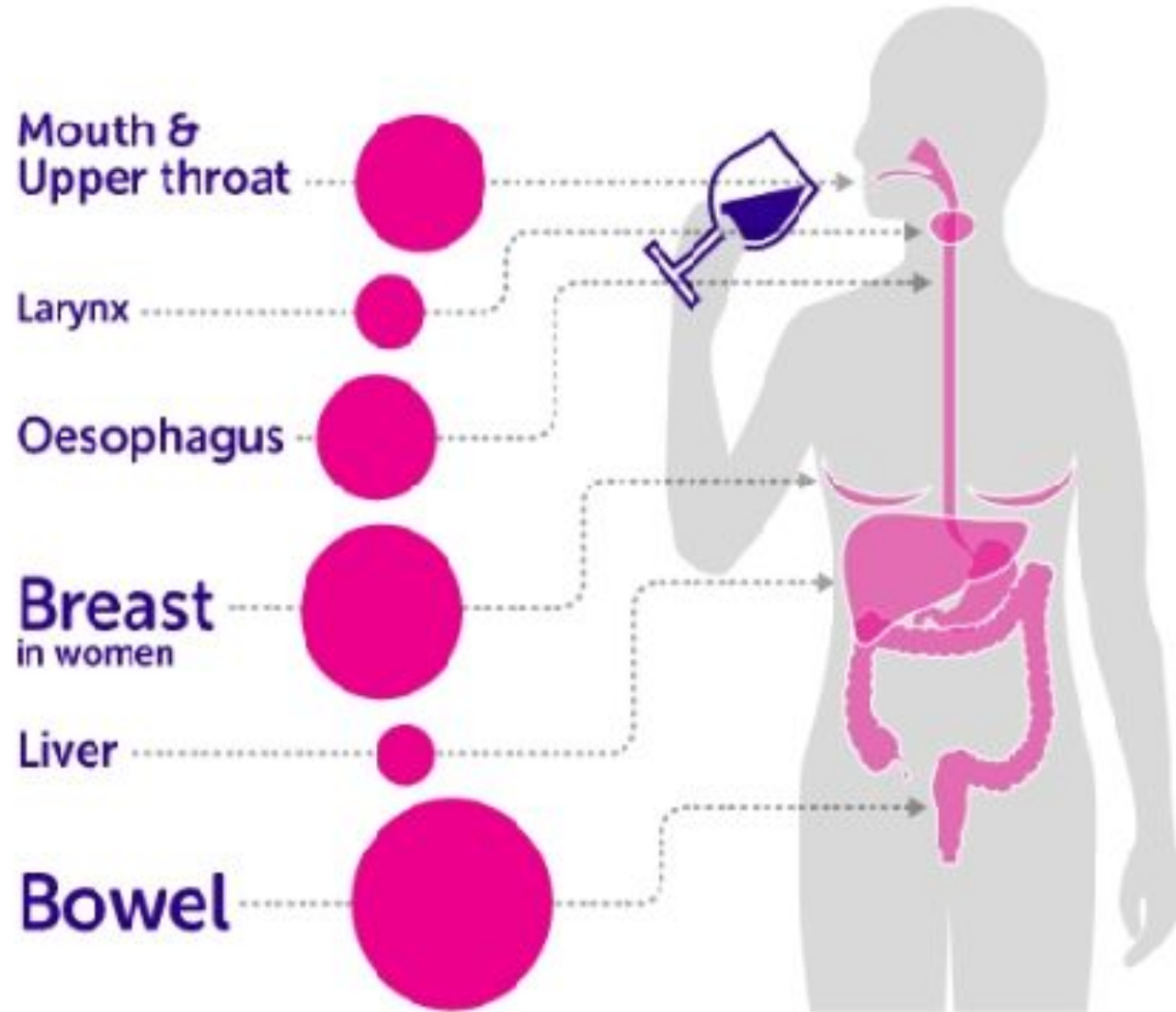
Limit your intake of trans fats, refined sugar and salt.



Eat according to your body weight and level of physical activity.



# 3. Alcohol use



## 4. Infections

### CANCER-CAUSING PATHOGENS



*HELICOBACTER  
PYLORI*



HEPATITIS B VIRUS  
(HBV)



HEPATITIS C VIRUS  
(HCV)



HUMAN  
PAPILLOMAVIRUS  
(HPV)

# 5. Environmental pollution



Every year, around  
**7 MILLION DEATHS**  
are due to exposure  
from both outdoor  
and household air  
pollution.

**Air pollution is a major environmental risk to health.** By reducing air pollution levels, countries can reduce:



**Stroke**

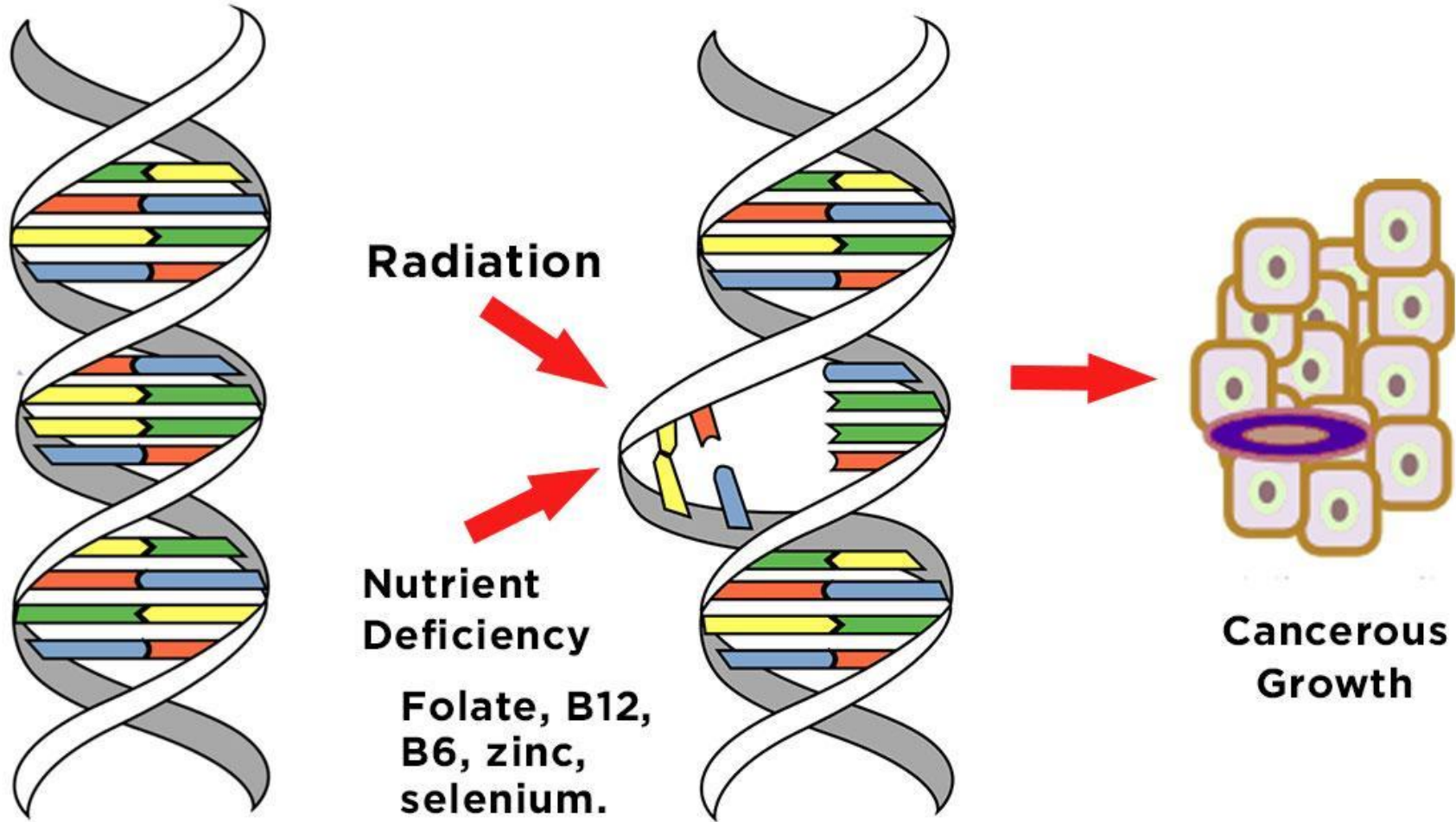


**Heart disease**



**Lung cancer, and both chronic and acute respiratory diseases, including asthma**

## 6. Radiation





**WE CAN**



**PREVENT CANCER**

**Thanks for your attention!**

